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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/606,896	06/29/2000	Kevin Vanfladern	MS154646.1/40062.69US03	7655

7590 08/28/2002

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EXAMINER

BARAN, MARY C

ART UNIT	PAPER NUMBER
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2857

DATE MAILED: 08/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/606,896

Applicant(s)

VANFLADERN ET AL.

Examiner

Mary Kate Baran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: the "unit module 40", on page 15 line 16, and the "unit module 404" page 17 lines 15, 16, 18, and 19. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: Under the heading "Related Applications", page 1, lines 7 and 9, Applicant lists two related applications but leaves blanks for the serial number and filing date.

The term "link", page 13 line 10, should be "linked".

Appropriate correction is required.

Claim Objections

3. Claims 20–23 and 31 are objected to because of the following informalities: "the method system according" (line 1), should be—the method—.

Claims 21–23 are objected to because of the following informalities: claim 21 is dependent on a subsequent claim.

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Claim 31 is objected to because of the following informalities: "the computer data product" (lines 1-2), lacks proper antecedent basis. The language is used in claim 24 from which claim 31 does not depend.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 11-15, 19-23, and 26-31 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification fails to clearly define the following terms: "ResultID field", "Marker Cycles field", "Overhead Cycles field", "Marker Pair ID field", "start App ID field", "start Marker ID field", "End App ID field", "End Marker ID field", and "MarkerPair Name field".

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-6, 16, 17 and 24 are rejected under 35 U.S.C. 102(a) as being anticipated by Guinther et al. (U.S. Patent No. 6,016,466).

Referring to claim 1, Guinther et al. discloses a computing system having a mass storage device (see Guinther et al., col. 3 line 66–col. 4 line 9) and a system timer (see Guinther et al., col. 22 lines 47–49) for obtaining benchmark timing for a portion of an application program execution (see Guinther et al., col. 2 lines 23–31), having a mass storage system (see Guinther et al., col. 3 line 66–col. 4 line 9), an init module for determining if the timestamp data is to be collected during the operation of the application program (see Guinther et al., col. 18 line 64–col. 19 line 2), a performance marker module for obtaining and storing the timestamp data for later retrieval (see Guinther et al., col. 4 lines 63–67), an uninit module for formatting (see Guinther et al., col. 8 lines 8–16) and storing (see Guinther et al., col. 7 lines 60–63) the obtained timestamp data into a data file within the mass storage device that permits retrieval after the termination of the application program (see Guinther et al., col. 7 line 63–col. 8 line 20), and a performance benchmark data post processing module for determining the benchmark timing from two or more timestamp data entries (see Guinther et al., col. 22 lines 34–41), wherein the performance marker module is executed at predefined points within a plurality of processing modules within the application program (see Guinther et al., col. 22 lines 24–35).

Referring to claim 2, Guinther et al. discloses an init module executed before timestamp data is collected (see Guinther et al., col. 18 line 64–col. 19 line 2), a

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performance marker module executed each time benchmark timestamp data and overhead timestamp data is to be collected (see Guinther et al., col. 2 lines 23-31), an uninit module executed after all timestamp data desired has been collected to store the timestamp data within records of a Raw Data Table (see Guinther et al., col. 20 line 64–col. 21 line 2), and a performance benchmark data post processing module which determines the benchmark timing from the records stored within the Raw Data Table (see Guinther et al., col. 19 lines 13-17). The examiner construes the term “thread database” as disclosed by Guinther et al. to be synonymous with the claimed term “Raw Data Table”, where the term “table” is understood to be defined as “having fields” (see page 26 line 19).

Referring to claim 3, Guinther et al. discloses an init module for determining if the timestamp data is to be collected (see Guinther et al., col. 18 line 64–col. 19 line 2).

Referring to claim 4, Guinther et al. discloses an init module for determining if the timestamp data is to be collected by checking for the existence of an identification key within a system registry (see Guinther et al., col. 18 line 64–col. 19 line 2), where the identification key uniquely identifies the processing modules to be used to collect, format, and store the run-time internal state data to be collected (see Guinther et al., col. 18 line 15–24). The examiner interprets the statement “profiling does not occur if the DLL is not present” (see Guinther et al., col. 19 lines 1-2) as disclosed by Guinther et al.

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to read on the claim limitation "checking for the existence of an identification key within a system registry" (see page 17 lines 1-4).

Referring to claim 5, Guinther et al. discloses a performance marker module which collects timestamp data only if the init module has determined that the timestamp data is to be collected (see Guinther et al., col. 18 line 64—col. 19 line 2).

Referring to claim 6 Guinther et al. discloses a performance marker module which generates a data record within the Raw Data Table each time the performance marker module is executed (see Guinther et al., col. 20 lines 37-40).

Referring to claim 16, Guinther et al. discloses inserting one or more code markers into the application program at predefined locations within the application program corresponding to the point at which benchmark timing data is desired (see Guinther et al., col. 22 lines 24-35), determining if benchmark timing data is to be collected at each code marker by checking for the existence of processing modules identified by an identification key within a system registry (see Guinther et al., col. 18 line 64—col. 19 line 2), if benchmark timing data is to be collected at each code marker (see Guinther et al., Figure 15), generate a benchmark data record containing the collected benchmark timing data each time the code markers are reached (see Guinther et al., col. 20 lines 37-40), store the benchmark data records within a data memory block (see Guinther et al., col. 7 lines 60-63) within the processing modules identified by

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the identification key within the system registry (see Guinther et al., col. 18 lines 64-67), retrieve the benchmark data records from the data memory block for transfer to first data record in a Raw Data Table device once all of the run-time internal state data has been collected (see Guinther et al., col. 19 lines 11-21), and process the first data records stored within the Raw Data Table to generate second data records in a Processed Data Table (see Guinther et al., col. 19 lines 2-4) that estimates the benchmark timing defined between two benchmark data records (see Guinther et al., col. 22 lines 36-41).

Referring to claim 17, Guinther et al. discloses benchmark timing generated and stored within the processed data table is determined from the difference between two data entries stored within the raw data table (see Guinther et al., col. 22 lines 36-41).

Referring to claim 24, Guinther et al. discloses inserting one or more code markers into the application program at predefined locations within the application program corresponding to the point at which benchmark timing data is desired (see Guinther et al., col. 22 lines 24-35), determining if benchmark timing data is to be collected at each code marker by checking for the existence of processing modules identified by an identification key within a system registry (see Guinther et al., col. 18 line 64—col. 19 line 2), if benchmark timing data is to be collected at each code marker (see Guinther et al., Figure 15), generate a benchmark data record containing the collected benchmark timing data each time the code markers are reached (see Guinther

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et al., col. 20 lines 37-40), store the benchmark data records within a data memory block (see Guinther et al., col. 7 lines 60-63) within the processing modules identified by the identification key within the system registry (see Guinther et al., col. 18 line 64-67), retrieve the benchmark data records from the data memory block for transfer to first data record in a Raw Data Table device once all of the run-time internal state data has been collected (see Guinther et al., col. 19 lines 11-21), and process the first data records stored within the Raw Data Table to generate second data records in a Processed Data Table (see Guinther et al., col. 19 lines 2-4) that estimates the benchmark timing defined between two benchmark data records (see Guinther et al., col. 22 lines 36-41), wherein the benchmark timing generated and stored within the processed data table is determined from the difference between two data entries stored within the raw data table (see Guinther et al., col. 22 lines 36-41).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-10, 18 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guinther et al. (U.S. Patent No. 6,016,466) in view of Levine et al. (U.S. Patent No. 6,349,406).

Referring to claim 7, Guinther et al. teaches all but a benchmark data record further containing an overhead timestamp data value each time the performance marker module is executed. Levine et al. further teaches obtaining a current event time and associating it with a current trace record (see Levine et al., col. 22 lines 27-29). The examiner interprets the terms "current trace record" (see Levine et al., col. 22 line 29) and "current event time" (see Levine et al., col. 22 line 28) to read on the claimed terms "benchmark data record" and "overhead timestamp data value", respectively (see Levine et al., Figures 20A-B). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Guinther et al. to include the teachings of Levine et al., because the overhead timestamp data enables the skilled artisan to calculate the total overhead value (see Levine et al., col. 22 lines 29-39).

Referring to claim 8, Guinther et al. further discloses a performance marker module which stores the benchmark data records within a data memory block (see Guinther et al., col. 7 lines 60-63) within the processing modules identified by an identification key within the system registry (see Guinther et al., col. 18 line 64–col. 19 line 2).

Referring to claim 9, Guinther et al. further discloses a unit module which retrieves the data records from the data memory block for transfer to the Raw Data Table (see Guinther et al., col. 20 lines 37-40) on the mass storage device (see Guinther et al., col. 3 line 66–col. 4 line 9).

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Referring to claim 10, Guinther et al. further discloses determining the benchmark timing from the difference between two benchmark timestamp data entries (see Guinther et al., col. 22 lines 36-41) stored within the Raw Data Table (i.e. thread database 412) to generate a second data record within a Processed Data Table (see Guinther et al., col. 19 lines 13-17).

Referring to claims 18 and 25, Guinther et al. does not teach determining benchmark timing by subtracting an estimate for the total overhead processing from the difference between two benchmark timestamp data entries stored within the raw data table, determining the estimate for the total overhead processing by totaling the difference between an overhead timestamp value and a benchmark timestamp value for all code markers between the two benchmark timestamp entries used to determine the benchmark timing, obtaining benchmark timestamp value from a system timer immediately after a code marker is reached, and obtaining an overhead timestamp value from the system timer immediately before the processing returns to the application program from performance marker processing.

Levine et al. teaches determining benchmark timing by subtracting an estimate for the total overhead processing from the difference between two benchmark timestamp data entries stored within the raw data table (see Levine et al., col. 24 lines 36-39), determining the estimate for the total overhead processing (see Levine et al., Figure 23B) by totaling the difference between an overhead timestamp value (i.e. "Call From Entry Overhead to Routine A 2356) and a benchmark timestamp value for all code

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markers between the two benchmark timestamp entries (i.e. base time for routine A 2352, 2372) used to determine the benchmark timing, obtaining benchmark timestamp value from a system timer immediately after a code marker is reached, and obtaining an overhead timestamp value from the system timer immediately before the processing returns to the application program from performance marker processing (see Levine et al., Figure 20A-B).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Guinther et al. to include the teachings of Levine et al. because the artisan needs overhead timestamp values to adjust the recorded time values for an accurate measurement of the time (see Levine et al., col. 22 lines 51-55).

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 and 2 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 09/606925 (the '925 application").

Although the conflicting claims are not identical, they are not patentably distinct from each other.

Referring to claims 1 and 2, although claims 1 and 2 of the instant application are not identical to claim 1 of the '925 application they have the same limitations. Claim 1 of the instant application recites: a computing system having a mass storage device and a system timer for obtaining benchmark timing for a portion of an application program execution, having a mass storage system, an init module for determining if the timestamp data is to be collected during the operation of the application program, a performance marker module for obtaining and storing the timestamp data for later retrieval, an uninit module for formatting and storing the obtained timestamp data into a data file within the mass storage device that permits retrieval after the termination of the application program, and a performance benchmark data post processing module for determining the benchmark timing from two or more timestamp data entries, wherein the performance marker module is executed at predefined points within a plurality of processing modules within the application program.

Claim 2, of the instant application recites an init module executed before timestamp data is collected, a performance marker module executed each time benchmark timestamp data and overhead timestamp data is to be collected, an uninit module executed after all timestamp data desired has been collected to store the

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timestamp data within records of a Raw Data Table, and a performance benchmark data post processing module which determines the benchmark timing from the records stored within the Raw Data Table.

Claim 1 of the '925 application recites every limitation of the application claims 1 and 2, the only differences being that (a) the instant application stores the collected data in a "Raw Data Table" whereas the '925 application stores its data in a "data file", and (b) the instant application discloses that the performance marker module "is executed at predefined points" to collect timestamp data, whereas the '925 application discloses that "the performance marker module is executed each time benchmark timestamp data and overhead timestamp data is to be collected".

There is no functional difference between storing the data in a "Raw Data Table", as claimed in the instant application, or storing the data in a "data file" as claimed in the '925 application. Similarly, there is no functional difference between executing the performance module marker "at predefined points" (instant application) and executing the performance marker "each time benchmark timestamp data and overhead timestamp data is to be collected" ('925 application), as the "predefined points" (instant application) would be located where timestamp data "is to be collected" ('925 application).

Claims 3, 4 and 5 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2, 3, and 5 of copending Application No. 09/606925 ("the '925 application"), respectively.

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Although the conflicting claims are not identical, they are not patentably distinct from each other.

Referring to claim 3, both the instant application and claim 2 of the '925 application recite an init module for determining if the timestamp data is to be collected.

Referring to claim 4, both the instant application and claim 3 of the '925 application recite an init module for determining if the timestamp data is to be collected by checking for the existence of an identification key within a system registry, where the identification key uniquely identifies the processing modules to be used to collect, format, and store the run-time internal state data to be collected.

Referring to claim 5, both the instant application and claim 5 of the '925 application, disclose a performance marker module which collects timestamp data only if the init module has determined that the timestamp data is to be collected.

Claims 3, 4 and 5 are dependent on claims 1 and 2, and therefore the same reasons for obviousness apply. There is no functional difference between storing the data in a "data file" (instant application) or storing the data in a "Raw Data Table" ('925 application), nor is there functional difference between executing the performance module marker "at predefined points" (instant application) and executing the performance marker "each time benchmark timestamp data and overhead timestamp data is to be collected" ('925 application).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Alexander, III et al. discloses a method and apparatus for benchmarking byte code sequences.

Cherian et al. discloses a method and apparatus defining a miss list and producing dial-in hit ratios in a disk storage benchmark.

Gustafson discloses a method and system for benchmarking computers.

Johnston et al. discloses a visual program runtime performance analysis.

Hale et al. discloses a benchmark tool for a mass storage system.

Kakimoto discloses a database system concurrency control apparatus using timestamps and processing time estimation.

Klein discloses a circuit for monitoring the usage of components within a computer system.

Wygodny et al. discloses a system and method for monitoring and analyzing the execution of computer programs.

Klassen et al. discloses an apparatus and method for monitoring the performance of a microprocessor.

Giroux discloses a method and data processing system for providing subroutine level instrumentation statistics.

Binns discloses a slack scheduling for improved response times of period transformed processes.

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Levy et al. discloses trace based method for the analysis, benchmarking and tuning of object oriented databases and applications.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Kate B Baran whose telephone number is (703) 305-4474. The examiner can normally be reached on Monday - Friday from 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S Hoff can be reached on (703) 308-1677. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

MKB
August 22, 2002


MARC S. HOFF
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